

ABSTRACT OF THE DISCLOSURE

~~{The present invention discloses a}~~ [A] method of forming a polycrystalline silicon layer ~~{, comprising: forming an}~~ [An] amorphous silicon layer on a substrate ~~};~~
~~a first step of melting completely the amorphous silicon layer}~~ **[is completely melted]**
using a laser beam ~~{thereby forming the}~~ **[passed through a mask so as to form a]**
polycrystalline silicon layer ~~{by adopting a mask; and a second step of melting an upper~~
~~portion the polycrystalline silicon layer using the laser beam by adopting the mask~~
~~thereby recrystallizing the}~~ [The] upper portion of the polycrystalline silicon layer ~~};~~
~~The defects of}~~ **[is then re-melted and re-crystallized using a laser beam passed**
through a mask. The mask includes a high transmittance region for completely
melting the amorphous silicon layer and a low transmittance region for re-melting]
the upper portion of the polycrystalline silicon layer ~~{is prevented}~~.

----- REVISION LIST -----

The bracketed numbers refer to the Page and Paragraph for the start of the paragraph in both the old and the new documents.

[1:3 1:3] Changed	"§ 119" to "§119"
[1:6 1:6] Changed	"layer of a" to "layer for a"
[1:8 1:8] Changed	"layer is made of SiNx," to "layer is beneficially comprised
of SiNx,"	
[1:8 1:8] Changed	"film is made of a" to "film is beneficially comprised of a"
[1:8 1:8] Changed	"or a" to "or of a"
[1:8 1:8] Changed	"layer includes " to "layers include "
[1:8 1:8] Changed	"source electrode and a" to "source electrode, and a"
[1:8 1:8] Changed	"electrode and is made of" to "electrode, ... comprised of"
[1:8 1:8] Changed	"flow and is made of" to "flow. The ... comprised of"
[1:9 1:9] Changed	"using the amorphous" to "using amorphous"
[1:9 1:9] Changed	"and thus is" to "and is"
[1:9 1:9] Changed	"of the amorphous" to "of an amorphous"
[1:9 1:9] Changed	"layer is as" to "layer can be as"
[1:9 1:9] Changed	"thus, " to "the "
[1:9 1:9] Changed	"and an incorporation ... not so good." to "are not
particularly good. "	
[1:10 1:10] Changed	"Meanwhile, the " to "A "
[1:10 1:10] Changed	"layer is much ... speed than the" to "layer has ... response
than an"	
[1:10 1:10] Changed	"The " to "A "
[1:10 1:10] Changed	"has as " to "can have "
[1:10 1:10] Changed	"a high field" to "a field"
[1:10 1:10] Changed	"as about " to "between "
[1:10 1:10] Changed	"A " to "As the "
[1:10 1:10] Changed	"of the TFT" to "of a TFT"
[1:10 1:10] Changed	". That is, a " to ", the "
[1:10 1:10] Changed	"of the polycrystalline" to "of a TFT having a
polycrystalline"	
[1:10 1:10] Changed	"is 100" to "is about 100"
[1:10 1:10] Changed	"of the amorphous" to "of a similar ... amorphous"
[1:10 1:10] Changed	"This comes from that the " to "The higher ... grains in a "
[1:10 1:10] Changed	"is more in ... than the " to "as compared to those of an "
[2:1 2:1] Changed	"A method " to "Methods "
[2:1 2:1] Changed	"forming the polycrystalline" to "forming polycrystalline"
[2:1 2:1] Changed	"layer includes " to "layers include "
[2:1 2:1] Changed	"eximer " to "excimer "
[2:1 2:1] Changed	"metal induced" to "metal-induced"
[2:2 2:2] Changed	"The eximer " to "Excimer "
[2:2 2:2] Changed	"technique is " to "is usually "
[2:2 2:2] Changed	"substrate is used. The" to "substrate can be used. A"
[2:2 2:2] Changed	"the eximer laser" to "the excimer laser"

[2:2 2:2] Changed	"technique has" to "technique usually has"
[2:2 2:2] Changed	"mobility more" to "mobility of more"
[2:2 2:2] Changed	"cm ² /Vsec and ... excellent in" to "cm ² /Vsec, ... excellent"
"	
[2:3 2:3] Changed	"one which" to "one in which"
[2:3 2:3] Changed	"of more than " to ", usually over "
[2:3 2:3] Changed	"Since a crystallization" to "Since crystallization"
[2:3 2:3] Changed	"has many " to "can have "
[2:3 2:3] Changed	"and the like, ... grain is low" to ", and the ... low grade"
[2:3 2:3] Changed	"this problem," to "this,"
[2:3 2:3] Changed	"film of about" to "film formed at about"
[2:3 2:3] Changed	"C is used as" to "C is usually used as"
[2:3 2:3] Changed	"Therefore, since a" to "Therefore, a"
[2:3 2:3] Changed	"material such" to "material, such"
[2:3 2:3] Changed	"quartz is used" to "quartz, is required"
[2:3 2:3] Changed	", there is a problem that a" to ". This presents a problem in
that "	
[2:3 2:3] Changed	"cost is " to "costs are "
[2:4 2:4] Changed	"The metal induced" to "In the metal-induced"
[2:4 2:4] Changed	"is one that a " to ", "
[2:4 2:4] Changed	"in such a way that " to "by depositing "
[2:4 2:4] Changed	"is deposited on the " to "on an "
[2:4 2:4] Changed	"and then a ... performed" to "which is then heat treated"
[2:4 2:4] Changed	"serves to lower an " to "lowers the "
[2:4 2:4] Changed	"a process " to "crystallization "
[2:4 2:4] Changed	"However, a surface" to "However, the resulting surface"
[2:4 2:4] Changed	"so good. This ... in grain. " to "particularly ... defects. "
[3:1 3:1] Changed	"The " to "A "
[3:1 3:1] Changed	"while the ... the silicon " to "formed while ... silicon grain
"	
[3:1 3:1] Changed	"If a distance" to "If the distance"
[3:1 3:1] Changed	"greater than a maximum silicon" to "greater than the
maximum silicon"	
[3:1 3:1] Changed	"the silicon ... However, a " to "a silicon ... However, if the
"	
[3:1 3:1] Changed	"smaller " to "less "
[3:1 3:1] Changed	"smaller than a maximum silicon" to "less than the maximum
silicon"	
[3:1 3:1] Changed	"a lateral ... TFT, the " to "large sized ... high-quality TFT,
"	
[3:1 3:1] Changed	"should uniformly be" to "should be uniformly "
[3:1 3:1] Changed	"forming the grain" to "forming grain"
[3:2 3:2] Changed	"to 1C " to "and 1B "
[3:2 3:2] Changed	"layer. A distance ... two adjacent" to "layer. The ...
between adjacent"	
[3:2 3:2] Changed	"smaller " to "less "
[3:2 3:2] Changed	"than a maximum" to "than the maximum"
[3:2 3:2] Changed	", but it " to ". It "

[3:2 3:2] Changed	"13 of a liquid ... centering" to "13 grow laterally, centering"
[3:2 3:2] Changed	"11 and" to "11, and"
[3:2 3:2] Changed	"while " to "after "
[3:3 3:3] Changed	"process of ... layer using" to "process using"
[3:3 3:3] Changed	"eximer " to "excimer "
[3:3 3:3] Changed	"in detail." to "in more detail."
[3:4 3:4] Changed	"of a polycrystalline" to "of polycrystalline"
[3:4 3:4] Changed	"eximer " to "excimer "
[3:4 3:4] Changed	"aliened " to "aligned "
[3:4 3:4] Changed	"along " to "on "
[3:4 3:4] Changed	"the mask pattern. The" to "the mask. The"
[3:4 3:4] Changed	"on a substrate" to "on the substrate"
[3:4 3:4] Changed	"having " to ", which has "
[3:4 3:4] Changed	"formed thereon, ... polycrystallization " to "."
Polycrystallization "	
[4:1 4:1] Changed	"by a shape and an energy" to "by the shape and energy"
[4:1 4:1] Changed	"beam and a" to "beam, and by the"
[4:1 4:1] Changed	"and a cooling speed" to "and cooling rate"
[4:1 4:1] Changed	"A " to "During crystallization, a "
[4:1 4:1] Changed	"during a crystallization ... divided into " to "has "
[4:1 4:1] Changed	"partially melt region." to "partially melted region."
[4:1 4:1] Changed	"one which only a" to "one in which the"
[4:1 4:1] Changed	"not melt and a" to "not melted, and thus the"
[4:1 4:1] Changed	"depth is smaller ... thickness" to "depth is less ...
thickness"	
[4:1 4:1] Changed	"layer and ... thickness" to "layer. The ... thickness"
[4:1 4:1] Changed	"layer grow" to "layer tend to grow"
[4:2 4:2] Changed	"melt " to "melted "
[4:2 4:2] Changed	"only part of" to "only some of"
[4:2 4:2] Changed	"layer is not" to "layer are not"
[4:2 4:2] Changed	"part of seed ... almost part " to "those seeds, almost all "
[4:2 4:2] Changed	"is also a" to "is a"
[4:2 4:2] Changed	"that a " to "in which "
[4:2 4:2] Changed	"is possible centering " to ", centered "
[4:2 4:2] Changed	"seeds." to "seeds, is possible."
[4:3 4:3] Changed	"that " to "in which "
[4:3 4:3] Changed	"lower " to "lowest "
[4:4 4:4] Changed	"a type of a " to "the "
[4:4 4:4] Changed	"determined through the" to "determined by the"
[4:4 4:4] Changed	"b " to "m "
[4:4 4:4] Changed	"31 arranged" to "31 is arranged"
[4:4 4:4] Changed	"stage moves slowly at" to "stage that ... usually at"
[4:4 4:4] Changed	"1 i/pulse, " to "1m /pulse, "
[4:4 4:4] Changed	"that a crystallization" to "that crystallization"
[4:4 4:4] Changed	"divided regions" to "divided stripe shape regions"
[4:4 4:4] Changed	"“C” in shape of stripe." to "“C”."
[5:1 5:1] Changed	"that the amorphous ... steps 45, a " to "for laser ... element
45, "	

[5:1 5:1] Changed	"31. At the" to "31. In the"
[5:1 5:1] Changed	"step, " to "crystallization ... element 45, "
[5:1 5:1] Changed	"41 of the" to "41 formed in the"
[5:1 5:1] Changed	"41a.Preferably" to "41a. Preferably"
[5:1 5:1] Changed	"for complete melting " to "that completely ... the silicon "
[5:1 5:1] Changed	"and a width" to "and the width"
[5:1 5:1] Changed	"smaller " to "less "
[5:1 5:1] Changed	"twice of the" to "twice the"
[5:2 5:2] Changed	"After" to "The step and ... continues. After"
[5:2 5:2] Changed	"grains of" to "grains 43 of"
[5:2 5:2] Changed	"that is crystallized" to "that were crystallized"
[5:2 5:2] Changed	"grows as " to "are "
[5:2 5:2] Changed	"as a grain 43 " to ", "
[5:3 5:3] Changed	"due to a later ... grains and " to ". The protruding portion "
[5:3 5:3] Changed	". This is because the " to "due to growth ... about because "
[5:3 5:3] Changed	"than the liquid" to "than liquid"
[5:3 5:3] Changed	"melted is lastly" to "melted last is "
[5:3 5:3] Changed	"increasing a volume." to "increasing its volume."
[5:4 5:4] Changed	"51, referred" to "51, each referred"
[5:4 5:4] Changed	"This is because" to "This result ... about because"
[6:1 5:5] Changed	"from the sudden" to "from sudden"
[6:1 5:5] Changed	"to an abnormal " to "to abnormal grain"
[6:1 5:5] Changed	"of the grains. " to ". "
[6:2 6:1] Changed	"The " to "A "
[6:2 6:1] Changed	"is patterned for" to "is usually patterned to form"
[6:2 6:1] Changed	"channel of the semiconductor layer in" to "channel in"
[6:2 6:1] Changed	"process, and then " to "processes. Then, "
[6:2 6:1] Changed	"surface of ... the gains" to "surface due to grain defects "
[6:2 6:1] Changed	"protruded " to "protruding "
[6:2 6:1] Changed	"Therefore, " to "The result is that the "
[6:2 6:1] Changed	"to a low" to "to low"
[6:5 6:4] Changed	"; a first step of " to ", "
[6:5 6:4] Changed	"melting completely the" to "melting the"
[6:5 6:4] Changed	"using a laser beam thereby forming " to "by passing ...
[6:5 6:4] Changed	"adopting a ... recrystallizing " to "passing a ... recrystallize
[7:1 6:5] Changed	"has a completely melting region" to "used for crystallization
[7:1 6:5] Changed	"region. The completely melting" to "region, wherein the
[7:1 6:5] Changed	"the partially ... region have" to "the partially ... region
[7:1 6:5] Changed	"shapes. The ... melting region" to "shapes. The ... melted
[7:1 6:5] Changed	"The completely ... pattern is made" to "The portion ...

[7:1 6:5] Changed "the partially ... pattern is made" to "the portion ... region is made"

[7:1 6:5] Changed "The first ... through one " to "Crystallization ... performed using a "

[7:4 7:3] Changed "1C " to "1B "

[7:5 7:4] Changed "eximer " to "excimer "

[7:6 7:5] Changed "that " to "of crystallizing "

[7:6 7:5] Changed "is crystallized through " to "using "

[8:1 7:8] Changed "a mask pattern ... according" to "a laser beam ... according"

[8:3 8:2] Changed "by a method of the" to "by the"

[8:4 8:3] Changed "PREFFERED EMBODIMENTS" to "A PREFERRED EMBODIMENT"

[8:5 8:4] Changed "invention, example" to "invention, an example"

[8:6 8:5] Changed "is deposited" to "is then deposited"

[8:6 8:5] Changed "In case that " to "If "

[8:6 8:5] Changed "hydrogen in advance before a" to "hydrogen before "

[8:6 8:5] Changed "process. It " to ". This "

[8:6 8:5] Changed "lower " to "reduce the "

[8:6 8:5] Changed "during the ... process. " to "during crystallization. "

[8:7 8:6] Changed "Sequentially, the " to "The "

[8:7 8:6] Changed "is crystallized" to "is then crystallized"

[8:7 8:6] Changed "and undertakes a lateral " to ". Lateral "

[8:7 8:6] Changed "to form " to "forms "

[8:7 8:6] Changed "At this point, the " to "The "

[8:7 8:6] Changed "a partially ... in series" to "a sequence ... regions 113"

[8:7 8:6] Changed "melting region 111," to "melting regions 111"

[8:7 8:6] Changed "111, a" to "111 a"

[8:7 8:6] Changed ", while the " to ". The "

[8:7 8:6] Changed "has a good" to "has good"

[8:7 8:6] Changed "Therefore, the laser beams" to "Therefore, a laser beam"

[8:7 8:6] Changed "the partially ... 111 and the" to "the partially ... 111 and the"

[8:7 8:6] Changed "region 113 become " to "regions 113 ... beams having "

[8:7 8:6] Changed "different ... intensity" to "different ... intensities"

[8:7 8:6] Changed "region 111 ... corresponds to the " to "regions 111"

[8:7 8:6] Changed "which " to "that "

[8:7 8:6] Changed ", whereupon " to ". The result is that "

[8:7 8:6] Changed "can be melted. ... hands, the " to "is melted ... 111. The "

[8:7 8:6] Changed "region 113 ... corresponds " to "regions 113 correspond "

[8:7 8:6] Changed "region. The " to "regions. A "

[8:7 8:6] Changed "through the completely" to "through a completely"

[8:7 8:6] Changed "2 w " to "2m "

[8:7 8:6] Changed ", so " to "such "

[8:7 8:6] Changed "a later " to "lateral "

[8:7 8:6] Changed "completely ... region 113 and" to "completely ... regions 113 and"

[8:7 8:6] Changed	"partially ... 111 have a" to "partially ... 111 have "
[8:7 8:6] Changed	"shape" to "shapes"
[9:1 9:1] Changed	"forming the polycrystalline" to "forming a polycrystalline"
[9:1 9:1] Changed	"scans the amorphous" to "scans an amorphous"
[9:1 9:1] Changed	"on the substrate" to "on a substrate"
[9:2 9:2] Changed	"partially ... of the mask" to "partially ... of the mask"
[9:2 9:2] Changed	"recyrstallized " to "re-crystallized "
[9:2 9:2] Changed	"Therefore, the polycrystalline" to "Therefore, a
polycrystalline"	
[9:2 9:2] Changed	"grains of no defect" to "grains with no defects"
[9:2 9:2] Changed	"recrystallized " to "re-crystallized "
[9:2 9:2] Changed	"melting region of" to "melting regions of"
[10:1 10:1] Changed	"of the polycrystalline" to "of a polycrystalline"
[10:1 10:1] Changed	"layer according ... embodiment of" to "layer fabricated ...
principles of"	
[10:1 10:1] Changed	"region that the adjacent" to "region where adjacent"
[10:1 10:1] Changed	"contact with each" to "contact each"
[10:1 10:1] Changed	"recrystallized ... process, so " to "re-crystallized ... process
such "	
[10:1 10:1] Changed	"having a flat" to "having the flat"
[10:1 10:1] Changed	"Therefore, the switching" to "Therefore, a switching"
[10:1 10:1] Changed	"layer can" to "layer also can"
[10:2 10:2] Changed	"described herein before, " to "described before, by"
[10:2 10:2] Changed	"forming the polycrystalline" to "forming a polycrystalline"
[10:2 10:2] Changed	"removed, and also the" to "removed and a"
[10:2 10:2] Changed	"on the grain" to "on grain"
[10:2 10:2] Changed	"region becomes flatted. " to "regions can be flattened. "
[10:2 10:2] Changed	"Therefore, the switching" to "Therefore, a switching"
[15:1 14:2] Add Paras	"7. A method of ... excimer laser beam."
[15:2 17:2] Changed	"The present ... discloses a " to "A "
[15:2 17:2] Changed	", comprising: forming an " to ". An "
[15:2 17:2] Changed	"; a first ... silicon layer " to "is completely melted "
[15:2 17:2] Changed	"thereby forming the " to "passed through ... to form a "
[15:2 17:2] Changed	"by adopting ... recrystallizing the " to ". The "
[15:2 17:2] Changed	". The defects of " to "is then re-melted ... re-melting "
[15:2 17:2] Changed	"layer is prevented." to "layer."